

LPWAN Meteorological Station

PRODUCT DESCRIPTION

The LPWAN Weather Station is designed for weather monitoring and smart agriculture initiatives that necessitate consistent measurement of meteorological conditions. This device is modular and can be outfitted with a range of sensors, offered in two distinct configurations: miniUNI housed in a standard Solidus Tech IP65 enclosure or microUNI within a radiation shield. The weather station is compatible with various LPWAN networks, currently supporting Sigfox (across all bands), LoRaWAN, and NBIoT.

SENSORS

- Air temperature gauge
- Hygrometer for measuring relative humidity
- Air pressure · External thermometer integrated into the cable
- for soil temperature
- Rain gauge
- Wind velocity
- Wind direction
- Leaf moisture content
- Soil moisture determined by watermark sensor

USAGE

- Assessment of indoor temperature and relative humidity
- Rainfall Volume – Irrigation Optimization
- Meteorology – atmospheric models
- Intelligent agricultural frameworks
- Monitoring prolonged meteorological trends



FEATURES	PARAMETERS
Cover	IP65/IP68 in radiation protection
Power source	3.6V lithium battery 14505(M)/2600mAh, up to 2 batteries possible
Energy usage	<3.5 μ A in deep sleep / 80 mA transmissions (Sigfox, LoRa) / 250 mA (NBIoT)
Battery industry	approximately 25,000 transfers
Supported LPWAN Standards	Sigfox, LoRaWAN, NB-IoT (one of the chosen options in order)
Dimensions standard/radiation shield	107 x 65 x 33 mm / 180 x 95 mm
Standard/radiation weighting	120g /180g
Temperature, humidity, and air pressure sensor	BME280/T accuracy: 0.5°C; RH accuracy: \pm 3%; range: -40 to 85°C; 0 to 100% RH; 300 to 1100 hPa.
Rain gauge	Pulse counter
External thermometer	DS18B20, -40 to 125°C, 0.5°C resolution
Leaf moisture content	Meander resistance meter / 300 to 65,000 ohms
Watermark in soil moisture content	0 to 200 cubic centimeters
Wind velocity and orientation	0 to 150 km/h (pulse meter, 1 pulse = 2.4 km/h) / 8 directions
Antenna / standard range	Helical, 2dBi gain / 45 to 110 km contingent upon LPWAN technology